APPLICATION NO. 10/600,689

(NEWKO1.001C1)

PROPOSED CLAIM AMENDMENTS

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1-7. (Canceled)

8. (Currently amended) An isolated arabinose isomerase polypeptide comprising SEQ ID NO: 4 encoded by a polynucleotide ~~arabinose isomerase isolated~~ from *Thermotoga neapolitana*.

9. (Currently amended) An isolated polynucleotide ~~polypeptide~~ comprising SEQ ID NO: 3 that encodes for an arabinose isomerase polypeptide ~~encoded by a nucleotide derived~~ from *Thermotoga neapolitana*.

10. (Currently amended) The isolated polynucleotide ~~polypeptide~~ of Claim 9, wherein said arabinose isomerase has the amino acid sequence of SEQ. ID NO: 4.

11. (Currently amended) The isolated polypeptide of Claim ~~8~~10, wherein said polypeptide is attached to ~~further comprising~~ a solid support.

12. (Original) The isolated polypeptide of Claim 11, wherein the solid support is a silica bead.

13-15. (Canceled)

16. (Currently amended) An arabinose isomerase produced by a method comprising:

providing a host cell transformed with the polynucleotide sequence SEQ ID NO: 3 ~~an expression vector comprising a nucleotide derived~~ from *Thermotoga* neapolitana, ~~the polynucleotide coding for an arabinose isomerase~~ and

culturing the host cell in a medium, thereby producing an ~~the~~ arabinose isomerase.

17. (Currently amended) A method of producing tagatose, comprising:

providing the isolated polypeptide of Claim ~~8~~9; and

admixing the arabinose isomerase with galactose, thereby causing a reaction and producing tagatose.

18. (Original) The method of Claim 17, wherein the reaction is carried out at a pH from about 5 to about 8.

19. (Original) The method of Claim 17, wherein the reaction is carried out at a temperature from about 50°C to about 100°C.

20. (Original) The method of Claim 19, wherein the reaction is carried out at a temperature from about 70°C to about 95°C.

21. (Original) The method of Claim 17, wherein the isolated polypeptide is attached to a solid support.

22. (Original) The method of Claim 21, wherein the solid support is a silica bead.

23. (Original) The method of Claim 17, wherein the reaction is carried out at a temperature of about 80°C.

24. (Canceled)

25. (Canceled)

26. (Currently amended) The isolated polypeptide of Claim ~~8–9–~~, wherein the polynucleotide has the sequence of SEQ. ID NO: 3.

27. (Previously presented) The arabinose isomerase of Claim 16, wherein the arabinose isomerase has the amino acid sequence of SEQ. ID NO: 4.

28. (Canceled)

29. (Previously presented) The arabinose isomerase of Claim 16, wherein the host cell is *E. coli*.

30. (Previously presented) The arabinose isomerase of Claim 16, wherein the host cell is E. coli BL21/DE3 (pTNAI) deposited as Accession No. KCCM-10231.

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